

Amendments to the Drawings:

The attached sheets of drawings include changes to Fig 2 and Fig 3. These sheets, which include Figures 2 - 3, replace the original sheets including Figures 2-3. In both Figure 2 and Figure 3, previously absent x-axis and y-axis labels have been added.

Attachments: Replacement Sheets
 Annotated Sheets Showing Changes

Remarks:

In the Office Action mailed on January 8, 2008, the Examiner rejected claims 1-5 and objected to claims 4 and 5. Applicants amend claims 1-5 herein. Applicants submit the attached drawing sheets to replace the drawings filed on May 27, 2005. Applicants submit new claim 6. Claims 1-6 are pending in the application.

In the Specification

Applicant has submitted a substitute Specification to more clearly describe the invention. The changes made merely clarify that which may readily be discerned from the specification and drawings as originally filed. Accordingly, no new matter has been added.

Status of the Claims

Claims 1-5 were rejected in the Office Action. Claims 1-5 are amended herein. Claims 4-5 were objected to. Claim 6-has been added. Claims 1-6 are now pending in the application.

The Claims

Claims 4-5 are objected to by the Examiner for the following informalities: it appears as if “syringes bodies” in the 3rd line of Claims 4-5 should read “syringe bodies”. Applicants have amended Claims 4-5 to correct the informality. In light of the claim amendments, Applicant’s respectfully request withdrawal of the objection to claims 4-5.

35 USC 112, second paragraph

Claim 4-5 were rejected under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim

the subject matter which applicant regards as the invention. The following is an indefinite phrase: “tubes of various shapes and manners”

Applicants have amended claims 4-5 to more clearly recite the subject matter of the invention. The phrase “tubes of various shapes and manners” has been amended to simply read, “tubes”.

Accordingly, Applicants respectfully request withdrawal of the rejection under 35 USC 112, second paragraph, and the allowance of Claims 4-5.

35 USC 103

Claims 1-5 were rejected under 35 U.S.C. 103(a) as unpatentable over SUPELCO (Bulletin 910, hereinafter SUPELCO) in view of Koh et al. (Journal of Chromatography A, hereinafter Koh). Applicant traverses the rejection.

As noted by the Examiner, SUPELCO discloses Solid Phase Extraction (SPE) columns packed with porous silica gel having 40 μm particles and 60 \AA pores in tubes of various shapes. As further noted by the Examiner, “SUPELCO does not specifically disclose flash chromatography columns, spherical and porous silica gel, semi-spherical and porous silica gel, nor columns containing between 10mg to 1 kg of spherical and porous silica gel or semi-spherical and porous silica gel.” (Office Action, page 6, claim citations omitted).

SUPELCO is directed solely to SPE applications and does not teach or suggest anything with respect to flash chromatography. SPE and Chromatography are very different technologies (Applicant has amended the application herein to exclude SPE). SPE is an extraction process wherein a sample in solution containing several components are subjected to being selectively adsorbed by a solid stationary phase. The adsorbed components are then washed away from the stationary phase. Flash

chromatography, on the other hand, is a dynamic process wherein components in a complex mixture are separated by dynamic interaction between the stationary phase and the mobile phase. Consequently, the requirements of the stationary phase (silica in the case of the claimed invention) in SPE and chromatography are not the same. Therefore, a person designing a chromatography apparatus would not be motivated to study a reference dealing with SPE.

Furthermore, the design, geometry, and production methods differ greatly between irregular silica and spherical silica. Therefore, a person of ordinary skill in the art would not be motivated to modify a solution based on irregular shaped silica to use spherical silica.

For the foregoing reasons, the claims are not obvious over SUPELCO.

While the Examiner has acknowledged that SUPELCO does not teach chromatography columns and not spherical, and semi-spherical silica gel, the Examiner has relied on Koh for that teaching (Office Action, Page 6). However, the context of this teaching from Koh should not be ignored. Koh shows the use of spherical particles packed in HPLC columns with Dynamic Axial Compression, DAC, at very high pressure (Koh, Page 225, Col. 1). The inventor has achieved packing flash chromatography columns at atmospheric pressure. It would not be obvious to a person skilled in the art that from the teaching in Koh that a flash chromatography column could be packed using spherical particles at atmospheric pressure. Accordingly, Claim 1 is not obvious over Koh.

For the foregoing reasons, Applicant's claimed invention of "A column for flash chromatography comprising spherical and porous silica gel having granules comprised between 3 and 45 μm and pores comprised between 30 and 300 \AA " (Claim 1) or "A column for flash chromatography with semi-spherical and porous silica gel having granules comprised between 3 and 45 μm and pores comprised between 30 and 300 \AA " (Claim

2) are not taught or suggested by either SUPELCO or Koh taken singly or in combination. Accordingly, Claims 1 and 2 should be allowed.

Claims 3 through 6 depend from Claims 1 and 2, inherit the limitations thereof, provide further unique and non-obvious combinations, are patentable over SUPELCO and Koh for the reasons given in support of Claims 1 and 2 and by virtue of such further combinations.

Thus, for the reasons given above, Applicants respectfully request withdrawal of the rejection of Claims 1 through 6 and their early allowance.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

CONCLUSION

It is submitted that all of the claims now in the application are allowable. Applicants respectfully request consideration of the application and claims and its early allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephonic interview, Applicants invite the Examiner to contact the undersigned at the number given below.

Applicants respectfully request that a timely Notice of Allowance be issued in this application.

Respectfully submitted,

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